

CLAIMS

What is claimed:

1. A hot melt adhesive composition having improved wet strength characteristics comprising a formulation having the following ingredients:

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- a) from about 50% to about 98%, by weight of a high molecular weight elastomeric- styrene-ethylene-butylene-styrene (SEBS) copolymer;
 - b) from about 1% to about 49%, by weight of another SEBS compatible elastomeric copolymer;
 - (c) from about 0.50% to about 5%, by weight, of a tackifying resin;
 - (d) from about 0.50% to about 5%, by weight, of a plasticizer,

wherein the ingredients total 100%, by weight, based on the weight of the entire adhesive composition, and wherein the hot melt adhesive composition has a viscosity of about 1,000 to about 50,000 cP at 180 degrees C. and a melting point of about 150degrees C to about 200.degrees C.

2. The hot melt adhesive composition of Claim 1 wherein the hot melt adhesive additionally comprises an anti-oxidant and the compatible SEBS copolymer is selected from the group of elastomeric copolymers consisting essentially of an A-B-A triblock copolymer, an A-B diblock copolymer, an A-B-A-B-A-B multiblock copolymer or radial block copolymer, and grafted versions thereof.

3. The hot melt adhesive composition of Claim 2 wherein the compatible copolymer is an A-B-A triblock copolymer and the B segment of the A-B-A copolymer is selected from the group consisting essentially of polyethylene, polypropylene, polybutylene, isoprene, and combinations thereof.

4. The hot melt adhesive composition of Claim 2 wherein the tackifying resin is at least partially compatible with the SEBS, and the antioxidant is a hindered phenolic antioxidant.

5. The hot melt adhesive composition of Claim 2 wherein the A-B-A base portion of the base adhesive comprises from about 70 % to 90.0 weight % of the composition.

6. A toy article having laminate or affixture bondings of an adhesive comprising:

(a) from about 50 percent to about 98 percent by weight of a base A-B-A block copolymer having a molecular weight greater than about 200,000, said block copolymer having polystyrene end blocks and a substantially unsaturated midblock;

(b) from about 1 to about 49 percent by weight of another A-B-A compatible block copolymer;

(c) from about 0.5 to 5 percent of a liquid plasticizer; and

(d) from about 0.50 to 5 percent by weight of solid tackifying agent..

7. The toy item of Claim 5 wherein the base block copolymer of the adhesive composition comprises an A block of polystyrene and a B block consisting essentially of ethylene-butylene, ethylene-propylene, butylenes, or mixtures thereof.

8. The toy article of Claim 5 wherein the other A-B-A compatible block copolymer is selected from the group consisting essentially of A-B-A triblock copolymer, an A-B diblock copolymer, an A-B-A-B-A-B multiblock copolymer or radial block copolymer, and grafted versions thereof.

9. The toy article of Claim 7 wherein the compatible copolymer is an A-B-A triblock copolymer and the B segment of the A-B-A copolymer is selected from the group consisting essentially of polyethylene, polypropylene, polybutylene, isoprene, and combinations thereof.

10. The toy article of Claim 5 wherein the A-B-A portion of the base adhesive comprises from about 70 % to 90.0 weight % of the adhesive composition.

11. A toy article having laminate or affixture bondings of an adhesive comprising:

(a) about 50 percent to about 98% percent by weight of an A-B-A block copolymer having a molecular weight greater than about 200,000, said block copolymer having polystyrene end blocks and a substantially unsaturated midblock copolymer and selected from the group comprising styrene butadiene rubber (SBR), styrene-butadiene-styrene (S-B-S), and styrene-ethylene-butylene styrene (SEBS) elastomeric block copolymers;

(b) from about 1 to 48 percent by weight of another compatible block copolymer; in which the B segment of the A-B-A copolymer is selected from the group consisting essentially of polyethylene, polypropylene, polybutylene, isoprene, and combinations thereof;

(c) from about 0.5 to 5 percent of a liquid plasticizer;

(d) from about 0.5 to 5 percent by weight of a tackifying agent.

12. The toy article of Claim 9 wherein the basic block copolymer of the adhesive composition comprises SEBS.

13. The toy article of Claim 9 wherein the compatible block copolymer is selected from the group consisting essentially of A-B-A triblock copolymer, an A-B diblock copolymer, an A-B-A-B-A-B multiblock copolymer or radial block copolymer, and grafted versions thereof.

14. The toy article of Claim 11 in which the compatible copolymer is an A-B-A triblock copolymer and the B segment of the A-B-A copolymer is selected from the group consisting essentially of polyethylene, polypropylene, polybutylene, isoprene, and combinations thereof.

15. The toy article of Claim 9 wherein the SEBS is present in an amount of from about 70% to 90 weight % of the composition.

16. The toy article of Claim 9 wherein the tackifier is present in an amount of from 0.5 to 5 wt. %.

17. The toy article of Claim 9 wherein the plasticizer is present in an amount of from 0.5 to 5 wt. %.